AMENDMENTS TO THE CLAIMS

Please amend the claims as indicated hereinafter.

1. (Currently Amended): A method for capturing illegal and undesired behavior for network components and for interactions between components comprising:

specifying one or more states and state transitions for one or more components or interactions between two or more components, wherein specifying includes specifying at least one composite state transition; and

when a particular component or interaction between a particular two or more components enters a particular state or state transition ~~if a said state or state transition occurs~~, generating a notification corresponding to the particular ~~specified~~ state or state transition, wherein the particular state or state transition is one of the one or more states or state transitions.

2. (Currently Amended): The method recited in claim 1, wherein ~~said~~ the one or more states are specified based on thresholds.

3. (Original): The method recited in claim 1, wherein the notification is an event.

4. (Currently Amended): The method recited in claim 1, wherein ~~a state or state transition is a state or state transition of~~ the particular component or interaction between the particular two or more components is a component, and wherein the step of generating the notification comprises generating the notification by the component.

5. (Currently Amended): The method recited in claim 1, wherein ~~if the state or state transition relates to~~ the particular component or interaction between the particular two or more components is an interaction between the particular two or more components, and wherein the notification is generated by at least one of the ~~components involved in the interaction between the~~ the particular two or more components.

6. (Original): The method recited in claim 1, further comprising the step of:

reporting the notification to a network management system.

7. (Currently Amended): The method recited in claim 1, further comprising the step of:

detecting ~~whether a state or state transition has occurred~~ that the particular component or interaction between the particular two or more components has entered the particular state or state transition; and

wherein ~~if said step of detecting detects that a state or state transition has occurred,~~ said notification is generated in response to said step of detecting.

8. (Original): The method recited in claim 7, wherein, the step of detecting is performed by an agent.

9. (Original): The method recited in claim 8, wherein the agent is a dedicated agent.

10. (Currently Amended): The method recited in claim 1, further comprising the step of

polling the ~~said~~ particular component or the particular two or more components to determine ~~whether a~~ that the particular state or state transition has occurred.

11. (Original): The method recited in claim 1, wherein the step of specifying one or more states and state transitions comprises specifying illegal states.

12. (Original): The method recited in claim 1, wherein the step of specifying one or more states and state transitions comprises specifying undesired states.

13. (Original): The method recited in claim 1, wherein the step of specifying one or more states and state transitions comprises specifying illegal states and undesired states.

14. (Currently Amended): The method recited in claim 7[[6]], wherein ~~detecting whether a state or state transition has occurred comprises determining whether a component or component interaction has entered~~ the particular state or state transition is an illegal or undesired state.

15. (Original): The method recited in claim 11 wherein an authorization violation and an authentication forgery are defined as illegal states.

16. (Currently Amended): The method recited in claim 12, wherein a ~~nongracefully~~ sudden QoS degradation is defined as an undesired state.

17. (Currently Amended): The method recited in claim 1, further comprising the step of examining multiple notifications to deduce one or more trends regarding the network.

18. (Currently Amended): The method recited in claim 17, wherein the step of examining multiple notifications comprises examining notifications for stable-behavior in a threshold value for a particular trend.

19. (Currently Amended): The method recited in claim 17, wherein the step of examining multiple notifications comprises examining notifications for increases or decreases in a threshold value for a particular trend.

20. (Currently Amended): A computer-based system for capturing illegal and undesired behavior for network components and for interactions between components, the system comprising:

one or more network components, each network component configured to spontaneously generate notifications ~~upon the occurrence of~~ when specified states and state transitions occur involving the network component, wherein the specified state and state transitions include ~~including~~ one or more composite state transitions; and

a network management system configured to receive said spontaneously generated notifications.

21. (Original): The system of claim 20, further comprising:

an agent configured to detect the generation of notifications by the network components, and configured to report detected notifications to said network management system.

22. (Currently Amended): The system of claim [[20]]21, further comprising:

a state table configured to store said specified states and state transitions, including composite state transitions.

23. (Currently Amended): The system of claim [[21]]22, wherein the state table is in a network management system.

24. (Currently Amended): The system of claim [[21]]22, wherein the state table is in a network component.

25. (Original): The system of claim 22, wherein the agent is further configured to examine one or more conditions of one or more network components and to query the state table to determine whether the one or more conditions represents an illegal or undesired state.

26. (Original): The system of claim 22, wherein the agent is further configured to examine one or more transitions relating to one or more network components and to query the state table to determine whether the one or more transitions represents an illegal or undesired transition.

27. (Currently Amended): A computer-based system for capturing illegal and undesired behavior for network components and for interactions between components comprising:

one or more network components;

an agent configured to examine said network components to determine whether specified states or state transitions, including composite state transitions, have occurred, wherein the agent is configured to generate notifications upon a determination that a specified state or state transition has occurred, and wherein the agent is configured to report detected notifications to a ~~said~~ network management system; and

said[[a]] network management system configured to receive reports of said generated notifications.

28. (Original): The system of claim 27, further comprising:

a state table configured to store said specified states and state transitions, including composite state transitions.

29. (Currently Amended): A computer-readable storage medium carrying one or more sequences of instructions for capturing illegal and undesired behavior for network components and for interactions between components, which instructions, when executed by one or more processors, cause the one or more processors to carry out the steps of:

specifying one or more states and state transitions for one or more components or interactions between two or more components, wherein specifying includes specifying at least one composite state transition; and

when a particular component or interaction between a particular two or more components enters a particular state or state transition ~~if a said state or state transition occurs~~, generating a notification corresponding to the particular~~specified~~ state or state transition, wherein the particular state or state transition is one of the one or more states or state transitions.

30. (Currently Amended): [[A]]The computer-readable storage medium as recited in Claim 29, wherein ~~said~~ the one or more states are specified based on thresholds.

31. (Currently Amended): [[A]]The computer-readable storage medium as recited in Claim 29, wherein said notifications are events.

32. (Currently Amended): [[A]]The computer-readable storage medium as recited in Claim 29, wherein ~~a state or state transition is a state or state transition of~~ the particular component or interaction between the particular two or more components is a component, and wherein the step of generating the notification comprises generating the notification by the component.

33. (Currently Amended): [[A]]The computer-readable storage medium as recited in Claim 29, wherein ~~if the state or state transition relates to~~ the particular component or interaction between the particular two or more components is an interaction between the particular two or more components, and wherein the notification is generated by at least one

of the ~~components involved in the interaction between the~~ the particular two or more components.

34. (Currently Amended): [[A]]The computer-readable storage medium as recited in Claim 29, wherein the instructions for carrying out the step of creating and storing first information further comprise instructions for carrying out the step of:

reporting the notification to a network management system.

35. (Currently Amended): [[A]]The computer-readable storage medium as recited in Claim 29, wherein the instructions for carrying out the step of creating and storing first information further comprise instructions for carrying out the steps of:

detecting ~~whether a state or state transition has occurred~~ that the particular component or interaction between the particular two or more components has entered the particular state or state transition; and

wherein ~~if said step of detecting detects that a state or state transition has occurred,~~ said notification is generated in response to said step of detecting.

36. (Currently Amended): [[A]]The computer-readable storage medium as recited in Claim 35, wherein the step of detecting is performed by an agent.

37. (Currently Amended): [[A]]The computer-readable storage medium as recited in Claim 36, wherein the agent is a dedicated agent.

38. (Currently Amended): [[A]]The computer-readable storage medium as recited in Claim 29, wherein the instructions for carrying out the step of creating and storing first information further comprise instructions for carrying out the step of:

polling the ~~said~~ particular component or the particular two or more components to determine ~~whether a~~ that the particular state or state transition has occurred.

39. (Currently Amended): [[A]]The computer-readable storage medium as recited in Claim 29, wherein the step of specifying one or more states and state transitions comprises specifying illegal states.

40. (Currently Amended): [[A]]The computer-readable storage medium as recited in Claim 29, wherein the step of specifying one or more states and state transitions comprises specifying undesired states.

41. (Currently Amended): [[A]]The computer-readable storage medium as recited in Claim 29, wherein the step of specifying one or more states and state transitions comprises specifying illegal states and undesired states.

42. (Currently Amended): [[A]]The computer-readable storage medium as recited in Claim 35, wherein ~~detecting whether a state or state transition has occurred comprises determining whether a component or component interaction has entered~~ the particular state or state transition is an illegal or undesired state.

43. (Currently Amended): [[A]]The computer-readable storage medium as recited in Claim 39, wherein an authorization violation and an authentication forgery are defined as illegal states.

44. (Currently Amended): [[A]]The computer-readable storage medium as recited in Claim 40, wherein a ~~nongracefully~~ sudden QoS degradation is defined as an undesired state.

45. (Currently Amended): [[A]]The computer-readable storage medium as recited in Claim 29, wherein the instructions for carrying out the step of creating and storing first information further comprise instructions for carrying out the step of examining multiple notifications to deduce one or more trends regarding the network.

46. (Currently Amended): [[A]]The computer-readable storage medium as recited in Claim 45, wherein the step of examining multiple notifications comprises examining notifications for stable-behavior in a threshold value for a particular trend.

47. (Currently Amended): [[A]]The computer-readable storage medium as recited in Claim 45, wherein the step of examining multiple notifications comprises examining notifications for increases or decreases in a threshold value for a particular trend.